



05 Dec 1973

The Missouri Miner, December 05, 1973

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Missouri Miner



University of Missouri - Rolla

VOLUME 60, NUMBER 12

ROLLA, MISSOURI

WEDNESDAY, DECEMBER 5, 1973

16 PAGES

Future Uncertain For UMR Computer Facilities

In the continuing saga of UMR's on again, off again computer situation it now looks as if we will continue indefinitely with our present operation. For all practical purposes those who use the computer will continue to use the same facilities the same way that they are using them now.

Changes which have already been made which still hold for the future are: CPS has been dropped in favor of ATS, TSO, and APL on the Central Facility's IBM 370-165; routine batch jobs will be processed on the 370-165 and will require a Central Facility project number, jobs processed on UMR's 360-50 will be limited to special application programs using the plotter, graphics and minicomputer network.

Computer operations will remain status quo for two main reasons. The most important one is that we need our IBM 360-50 in order to support the minicomputer network. One advantageous outgrowth of this for our campus is that we will be able to continue special application programs that cannot be done or would be technically difficult through the Central Facility in Columbia.

The second reason for being able to keep our present facilities is that they are almost completely owned by the University. This year a 136,000 dollar

payment has already been made toward the purchase of three major pieces of computer equipment. Next year the final payment of 69,000 dollars will give the University outright ownership of a central processing unit, five disk drivers, and a control unit.

Even if sometime in the unforeseeable future there should be a change in the equipment, a big percentage of the students who use the computer would have to make little change in their programming practices. Students using COBOL, WAT5, and PL1 languages would be virtually unaffected.

Since the 370-165's CPU is much faster than that of our 360-50, some speculation has been in the air that students will actually benefit by using the U-WIDE computer. Even though this faster speed looks optimistic, a faster turn-around time is still merely conjecture since there will be a much bigger amount of processing done at Columbia (when all University computing is converted to 370-165) than is done here now.

In the meantime maybe Hewlett-Packard will develop something new that will fit into every student's pocket and budget and we won't have to worry about this business of computer politics anymore.

Rolla's Observatory

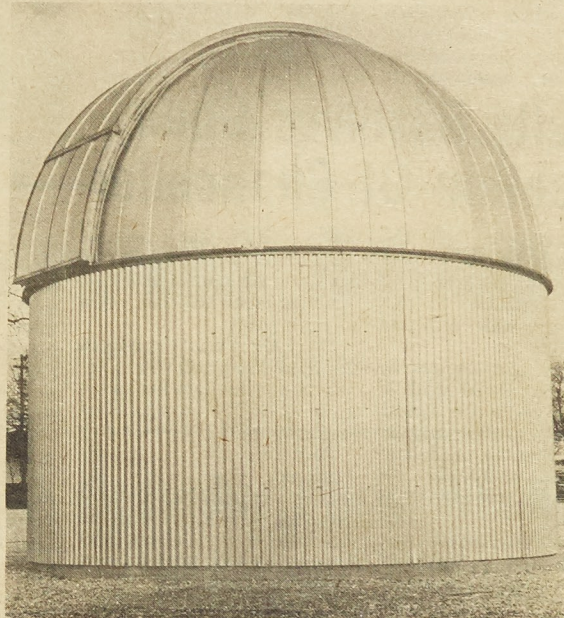


Photo by Blanc

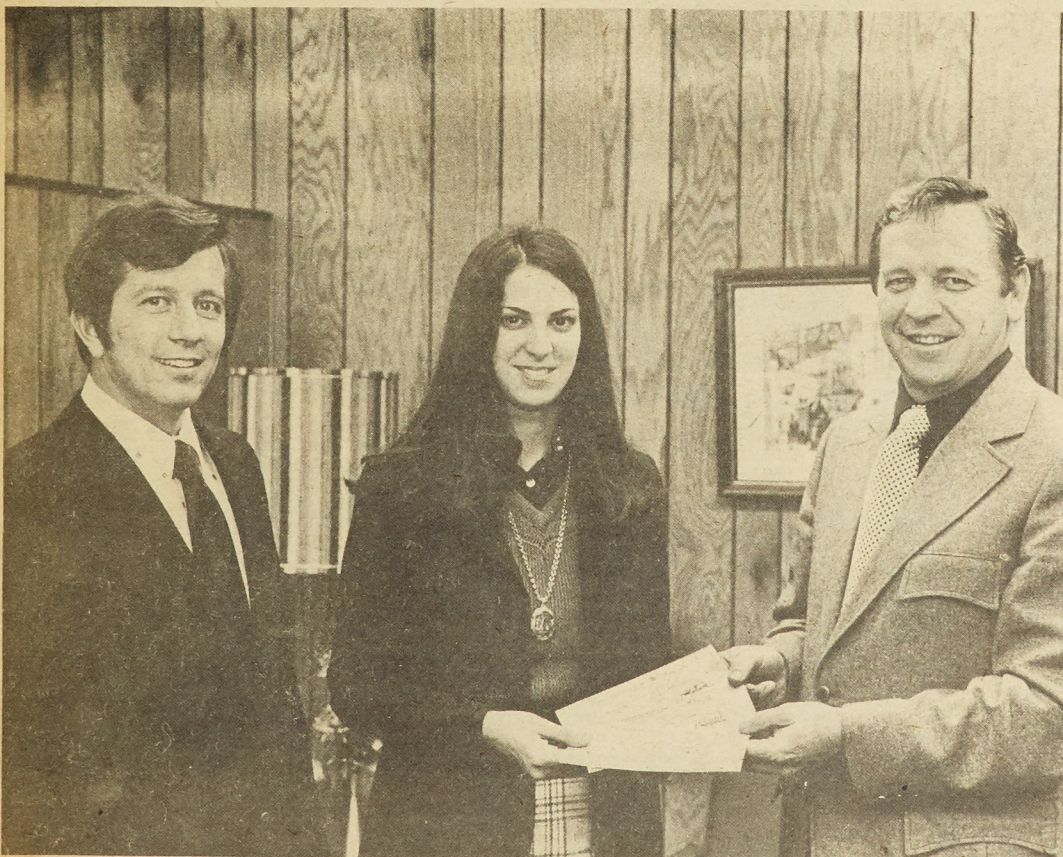
The field of astronomy at Rolla has taken a giant step forward with the installation of the new 16-inch Cassegrain telescope, located just west

of the Computer Science building. This telescope, the largest and most powerful professional telescope in the state of Missouri, represents an investment of \$30,000 for the University of Missouri, and 3 years of waiting for Dr. J. T. Dowell and the Physics department.

Installation took place two weeks ago but a few minor problems keep the telescope from becoming fully operable. Power must be switched from a mechanical generator to electrical hookups; a platform must be devised for viewing since the bottom eyepiece is more than 8 feet above the ground; and a few minor adjustments must be made. This \$17,000 telescope is the most practical; atmospheric conditions in Missouri render a bigger one ineffective. While powerful enough for graduate work, the telescope was obtained mainly for undergraduate and faculty research.

Many people have been wondering why the observatory was set up inside the Rolla city limits. Actually three places were under consideration—its present site, 10 miles outside of town, and atop the physics building. The Physics building idea was immediately dropped because of costs—a \$15,000 difference—while the present site for the \$3,000 building was chosen with convenience and cost in mind. Since Rolla has few night lights, this was no problem—except for Holiday Inn sign. It sends a beam of light upward which interferes with the telescopic view. It is hoped that by locating close to the campus, more students will be able to take advantage of this unique instrument.

In the future, Dr. Dowell hopes to be able to set aside certain days for student viewing, and a few days a year for viewing by the general public viewing. Traditionally, only a handful of students participated in astronomy research; the new telescope should not only increase interest in the present student body, but will be a good recruiting factor for new students.



Three checks totaling \$6,000 were recently presented to the University of Missouri-Rolla by representatives of the Celenese Corp. Making the presentation were, from left, J. R. Stretch, group account manager, Celenese Fibers Marketing, New York, N. Y., and Diane Dawson, engineer at Celenese Fabric, Rock Hill, S. C., and a 1973 graduate of UMR. Accepting the three

\$2,000 checks is Dr. Bill Atchley, associate dean of the School of Engineering. The unrestricted gifts from Celenese Corp. are for the development funds of the School of Engineering and the departments of chemical and mechanical engineering. The money will be used for scholarships, equipment or professional development. (UMR PHOTO)



Dec. 7
Dec. 9

IFC Sing - Cent. Hall
Colossus - Cent. Hall

7:30
4 & 6:30

Nov. 25 - Dec. 15

Art Display: Al Jones

Dec. 1 - Dec. 21

Art Display: Posters of Peter Max

Chancellor Search To Meet Students

Dr. A. G. Unklesbay, U-Wide representative on the UMR Chancellor Search and Screening Committee, will be available (along with other members of the Committee) in the Meramec Room of the Student Center, December 6, to

discuss the Chancellor's Search Process. Interested faculty, staff, and students may visit with the Committee's representatives from 9 a.m. to 12 noon and from 1:30 p.m. to 3:20 p.m.

Faculty Resolves Open Selection Of Chancellor

The President of the University of Missouri has instructed the Search and Screening Committee to conduct its search with "complete confidentiality".

This policy, as interpreted by the committee, would result in no opportunity for the faculty and students to have any interaction with the candidates and consequently no opportunity for further input to the committee.

The new Chancellor will come to his job with a degree of report with the faculty already established, if and only if the faculty has had a meaningful role in his selection. Such role requiring as a minimum the opportunity for candidates to interact with the faculty.

With present enrollment and budget problems, presentation of the quality of our faculty may be one of the best means available to make the Chancellor's position attractive to qualified candidates.

It is probable that a policy of confidentiality would result in the loss of far more of the better qualified candidates than would an open policy.

The UMR Faculty considers the open policy followed in the selection of the last two deans hired at UMR as a significant step forward.

Therefore be it hereby Resolved:

That the Faculty of UMR respectfully requests that the President of the University of Missouri adopt an open policy of selection allowing for:

1. Substantial interaction between all of those candidates being seriously considered and the faculty and students.

2. Dissemination of the criteria being used by the Search and Screening Committee in the selection process.

3. Advertisement nationally of the position in the Chronicle of Higher Education and other journals.

MINER Strives For Dependence

This report was produced by the Miner newspaper staff in accordance with the Board of Curator's suggestion that our student newspaper become independent. The hope was the student newspaper could attain independent stature and relieve the University system of its financial and political implications (i.e. a law suit). An added benefit would be a complete free hand by the newspaper staff to publish the paper.

Bernard Bruns and I (Jerry Davis) first attended a meeting with Dr. Unklesbay in Columbia Missouri with the editors of the other three University newspapers. All of the facts were brought forth and looked over by the editors, and the other three editors agreed tentatively it would be idealogical and plausible to achieve independence in time; the Miner did not.

All facts were brought back to Rolla and applied to our situation, and were weighed thusly by the Missouri Miner staff. The Miner staff decided there were two major points that could not be compensated for off campus. The first and most important point concerns financial stability, and the second is loss of student interests and identities.

Financially the Miner receives roughly \$20,000 income annually. Listed below is a basic breakdown of income:

Fees	\$12,000
Advertising	7,800
Miscellaneous	200
	\$20,000

Already the Miner is suffering a financial pinch by spiraling printing costs, static enrollment, and reduced student fees. This has not only reduced our operating capital significantly, but the future appears grim in view of the fact that student enrollment has been on the decline the past few years.

The other three University newspapers are turning to advertising for a stronger financial support, and with their locations they are fairly sure that this method will work effectively. With our smaller community of Rolla, we have already saturated our advertising and have no hopes of any serious expansion. In other words, our advertising is growing with the town — very slowly.

Considering we could get the same student fees off campus, would give us slim hope. Yet most campuses are planning to cut the fees due to increased friction between their papers and the administration. Up to this time, we have had little or no friction in Rolla.

If the Miner were to become independent, the organization would be faced with numerous expenses for goods and services which the University now supplies or gives to us at a

reduced cost. Rent, utilities, and services would take much more money for which there is no additional source. Photographic and office supplies would almost double in price if we were to buy them through private concerns. It would also cost us approximately \$2,000 for a new darkroom, and the expense of office furniture could not possibly be met.

Another major point to weigh is a possible loss of student identity, interest, and support. Except for the last three years, UMR has had almost all engineering students. I am positive that this type of student, on the whole, just is not interested in publishing a newspaper. We generally have some problems obtaining good people to fill our positions, as journalism is more work than glory. Without the Miner being a University activity, I believe we would lose quite a bit of talent in the future, and losing student interest shortly thereafter.

The Missouri Miner staff therefore suggests that the Miner retain its present status with the University of Missouri-Rolla. Having had few problems in the past, we believe the Miner can exist responsibly and harmoniously on campus due to the calibre of student on campus.

Respectfully Submitted,
Jerry Davis and the Miner Staff

NOTICE

There will be a meeting at 7 p.m. Wednesday, Dec. 5 for students planning on going back to their high schools over Christmas Break. Mr. Lewis will give a short talk on the proper way of getting in touch with the school and talking to the students. It is important for the people wanting to go back to their schools to attend. The meeting will be in G-5 of the Humanities and Social Science Building.

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AIChE Wins Award

Rolla, Mo., Nov.—The University of Missouri-Rolla student chapter of the American Institute of Chemical Engineering (AIChE) has been notified that it has won its fourth consecutive "Award of Excellence" for the 1972-73 academic year. In addition, UMR's chapter adviser, Dr. Harvey Grice, professor of chemical engineering, has been selected winner of the AIChE "Outstanding Student Chapter Counselor Award."

UMR's student chapter of AIChE is one of 120 such student chapters throughout the nation. This is the fourth time in the four-year history of the award that the UMR chapter has won it. Dr. Grice has been chapter adviser since the beginning of the 1969-70 academic year.

Chapter presidents during the 1972-73 academic year were Richard Schafermyer, St. Louis, currently a graduate student in chemical engineering

at UMR, and Michael Ford, Cumberland, Md., graduate employed by Celanese Corp.

The awards will be officially presented at a meeting of the UMR chapter during the second semester.

Dr. Grice and Marvin Borgmeyer, St. Louis, chemical engineering senior and current president of the AIChE student chapter, attended the AIChE annual meeting in Philadelphia, Pa., Nov. 10-11, to participate in student chapter workshops.

Tau Beta Pi Treats Boys

The UMR chapter of Tau Beta Pi, the national engineering honor society, hosted seventeen guests from Boys' Town at the November 17th football game against Northeast Missouri State. Former president Jim Bondi was in charge of the details. The boys were given special seats at the game, were publicly welcomed during the halftime program, and were treated to hotdogs and hot chocolate courtesy of Tau Beta Pi.

Although the day was a little rainy and cold, the boys said they had a good time and would like to come back for a basketball game next semester. Tau Beta Pi would like to thank the athletic department who helped in the arrangements for their cooperation.

NOTICE

St. Pat's Sweatshirts and buttons are now available in the University Center. So hurry and get your St. Pat's paraphernalia, NOW!

Make this year's St. Pat's the best one ever!

IFC Sing This Friday

The UMR Interfraternity Council will sponsor its annual 'Sing' this Friday evening starting at 7:30 p.m. The Sing will be held this year in the Centennial Hall of the new University Center, and everyone is welcome to attend.

The IFC 'Sing' is coordinated and promoted by the UMR fraternities, and is held each year on Friday on of Christmas Party Weekend. The content of the Sing stems from musical competition among vocal groups representing the individual fraternities. The productions this year will be split into two categories: musical numbers, which are mostly popular music done by groups of up to eight people, and novelty acts, which are a combination of wits, costumes, and showmanship, as well as vocal ability. An added at-

traction for the Sing this year will be a talent show sponsoring some of UMR's own talent. The 'Drifters', UMR stage band, will provide filler material during the in-betweens.

Judging the sing competition this year will be Mr. James Ring, assistant band director at Rolla High School, Alvin Steinbach, an instructor in the UMR Humanities and Social Sciences department, and Joel Kramme, a music instructor at UMR.

The fraternities will be competing for the pictured trophies which have been on display this week in a trophy case in the Old Student Union. Listed below are the productions scheduled for this year's Sing. Again, everyone is welcome to attend, and accordingly there will be no admission charge.

Missouri Miner

University of Missouri - Rolla

GDI Picks Date for Party Weekend

The date for this year's Independents' Weekend was picked at the Independents' Weekend Committee meeting on November 14th. The date was set by a unanimous decision of those present for March 29th and 30th.

With Easter vacation starting the following weekend, the only other possible date was April 20th and 21st. However, the Engineer-In-Training (EIT) Exam is already scheduled for that Saturday, March 29th and 30th, while only two weeks after

St. Pat's, coincides with the UMR Invitational Rugby Tournament, at which time UMR will host from 16 to 24 rugby teams from throughout the Midwest. Last year's Independents' Weekend was also two weeks after St. Pats. It was, by all accounts, a huge success.

Officers for the coming year were also elected. Ed "Hardhat" Hohlt, Vice-President of GDI, was chosen chairman. Dawn Gant, WRHA President, was elected secretary.

Treasurers position was filled by Dean Tibbitts, President of Tech Club.

The Independents' Weekend Committee has gotten off to a good start with all Independent organizations being well represented.

The next meeting is tonight, November 28, at 6 p.m., in the University Center's Meramec Room.

If there are any questions, call Gordon Erickson, 364-7129.

William Flood To Speak At Commencement

H. William (Bill) Flood, manager process engineer and economic evaluation for Kennecott Copper Corp., Lexington, Mass., will speak at the University of Missouri Rolla Winter Commencement exercises Sunday, Dec. 16. Title

of his address is "Don't Question the Facts."

An alumnus of UMR (Class of 1943), Flood has served on national committees of two professional associations—American Institute of Chemical Engineers and American Institute of Mining Engineers.

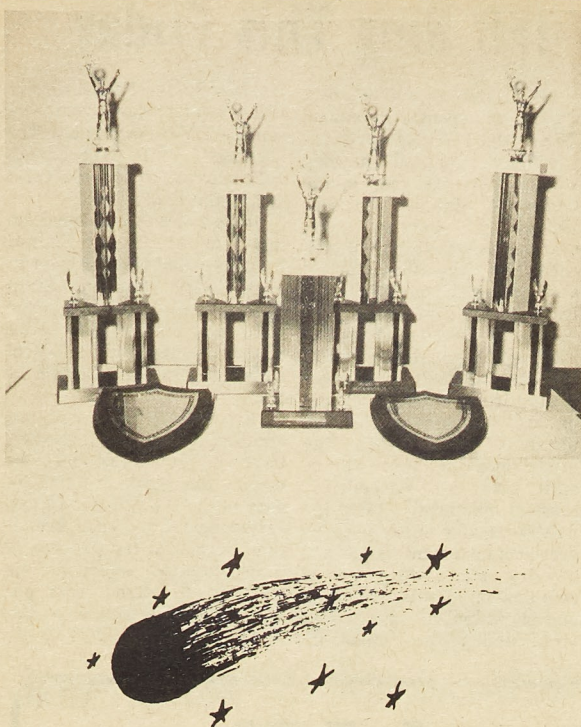
He is an area director of the MSM-UMR-Alumni Association and active in several civic organizations in his home community of Acton, Mass.

Commencement ceremonies begin at 2 p.m. in UMR's Multi-Purpose Building.



Bob Cruse, Recreational Therapist for the Rolla Diagnostic Clinic, (right foreground) is shown accepting a check for \$250 from Alpha Phi Omega president, Bob Buechel. The money is to be used to purchase a

canoe and related equipment for the clinic. The pair is flanked by the members of A.P.O. including Cliff Mahar (fourth from the left) who was responsible for completing arrangements for the donation.



More on Kohoutek

ROLLA, Mo., Nov.—“One of the most spectacular comets of this century can now be seen by Missourians with the aid of binoculars,” says Dr. Joseph Senne of the University of Missouri-Rolla.

Dr. Senne is professor of civil engineering and chairman of that department at UMR and his hobby is astronomy. For a number of years he has provided timetables to Missouri newspapers listing dates and times various satellites can be seen passing over the state.

“If it isn’t too cloudy, the Kohoutek comet can be seen as a faint object by looking low in the southeast in the constellation Corvus, one hour before sunrise,” he says. “As the comet moves closer to the sun it will become brighter and should be easily visible to the naked eye by Nov. 20.”

Dr. Senne says that by Dec. 15, Kohoutek will be a very bright object in the pre-dawn sky. And from that time until Dec. 28, when it will pass behind the sun, those looking for the comet after the sun is up should be very careful not to look directly at the sun.

This comet was initially discovered March 7, this year, when it was as extremely faint object 368 million miles from the earth. Since that time it has grown steadily brighter as it speeds toward the sun. It is presently within 163 million miles of the earth.

Kohoutek will probably be the most studied comet in history, according to Dr. Senne. Involved in this work will be

most major observatories, amateur astronomers, Skylab 3 and Mariner 10 (the newly launched spacecraft now speeding toward the planets Venus and Mercury).

At UMR, a group of physics students plans to make a photographic record of the comet’s passage. Members of the Astronomy Club will use various filters when making the photographs in an attempt to determine the spectral content of the comet’s emission.

“There are generally three parts to a comet,” Dr. Senne says. “The nucleus, which may be several miles in diameter, is composed of frozen gases, ices and rocky material. The coma is a halo of gases surrounding the nucleus and, in the case of Kohoutek, may measure 100,000 miles or more in size. The tail of a comet is made up of very tenuous gas which is forced away from the direction of the sun by solar radiation pressure and the solar wind. Comet tails vary in length but may reach lengths of over 80 million miles.

“Most comets are associated with the solar system. And since they spend so much time beyond the planets, they may represent material which has remained unchanged since the formation of the solar system,” he concludes.

Some of the recent bright comets have been Arend-Roland (1957), Mrkos (1957), Ikeya-Seki (1965) and Bennett (1970). The famous Halley’s comet, which was visible in 1910, is scheduled to return in 1986.

IFC Acts Schedule

Alpha Phi Alpha	“Keep Your Head to the Sky”	“Something New Part II”
Triangle		“Rolling Stone (on the cover of)”
Kappa Alpha	“Try to Remember”	“You’ll Never Walk Alone”
Sigma Pi		“No. 1”
Kappa Delta	“Gloria in Excelsis Deo”	“There is Nothing Like a Dame”
Theta Xi	“No Name City”	“Blue Moon Medley”
Zeta Tau Alpha		“I Am Woman”
Sigma Phi Epsilon		“In the Middle of Rollamo”
Tau Kappa Epsilon	“With a Little Bit of Luck”	“Basketball Jones”
Phi Kappa Theta	“The Stripper”	“The State and 8th Marching Mizzou, Kazoo, Rythmn & Blues Band”
Kappa Sigma	“She Likes Basketball”	“The Metropolitan Transit Authority”
Delta Sigma Phi		“Monster Mash”
Lambda Chi Alpha	“I’ve Got a Name”	

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Music Expanding At UMR

You never had the opportunity to learn a band instrument in high school? Or perhaps you played that old trumpet in the attic out of defense to your parents' request but always retained a repressed desire to learn saxophone? Were you afraid you would be teased by your virile classmates if you took up the flute? The Music Section offers you the opportunity to resolve these and other similar frustrations with Music 38, Class Instrument Instruction. Though the course was originally designed to give existing instrumentalists a chance to learn a second instrument, many UMR students are availing themselves of the instruction to learn a wind instrument for the first time, and a few have found it possible to actually play in the Miner's Band.

Even many choral musicians have discovered that learning a wind instrument can be something more than just a breathtaking experience. Mr. Kramme, director of the University Choir and Chamber Choir and instructor for Class Instrument Instruction, finds

that singers develop a keener reading ability and a better understanding of all facets of breath support after exposure to wind instrument instruction.

The unqualified success of Sweet Charity, the musical cooperatively produced by the Music Section and the Theatre Guild last spring, has led to the offering of Music 42, State Productions, for next semester. Students who hope to get involved with the musical in any capacity (chorus members, starring roles, orchestra members, technical crew, etc.) are urged to enroll in Music 42 and receive credit for their efforts. Several musicals are presently being considered for possible production (Celebration; Promises, Promises).

Performing ensembles being offered in the spring semester include Concert Band (Music 30), String Ensemble (Music 34), Chamber Band and Brass Choir (Music 35), Jazz Ensemble (Music 36), University Choir (Music 40), Chamber Choir and Pops Ensemble (Music 41). While UMR has enjoyed an increase in

the number of female students on campus, the mixed choral groups are in particular need of soprano and alto voices. In addition, the wind ensembles are looking for French Horn, Oboe and Bassoon players to augment their existing instrumentation.

UMR And Rolla High Present Joint Concert Thursday

The Rolla High School Symphonic Wind Ensemble and the University of Missouri-Rolla Concert Band will present a joint concert Thursday, Dec. 6. It will begin at 8 p.m. in Centennial Hall of the University Center on the UMR Campus.

Selections to be played by the 50 member Wind Ensemble will be announced. They will be from the following list: "Taper No. 1" by Alan Hovhaness, "Procession on Nobles" from MLADA by Nicholas Rimsky-Korsakov, "Jedermann Overture" by Paul W. Whear, "Finale from Pineapple Poll" by Sir Arthur Sullivan, "Second Suite in F for Military Band" by Gustav Holst, "A Christmas

Humanities Chamber Music

On Sunday, December 2, the music section of the Department of Humanities presented a chamber music recital in the mechanical engineering auditorium.

A five piece string ensemble opened the program with Mozart's Quartet in C, K157.

The chamber band continued in the Mozart vein by playing "Alleluia" from Exultate, jubilante. This piece, although having a religious title, is a secular work. The chamber band did a fine job with Dmitri Shostakovich's "Allegretto" from Symphony No. 5. They concluded with "Menuetto from London Symphony No. 2 by Franz Josef Haydn. Both the chamber band and the string ensemble were under the able direction of Dr. David Oakley.

The brass choir, under the direction of Joel Kramme opened with Granger's "Australian Up-Country Tune." It was "Prelude and Fugue in C Minor" by Johann Sebastian Bach. The brass choir's piece de resistance was Introduction and Allegro xy the University of Nebraska's Robert Beadell. This selection featured some fine tympani work.

UMR Choir Christmas Program Presented At Lutheran Church

The University of Missouri-Rolla Choir and Chamber Choir will present a Christmas Program at 8 p.m., Tuesday, Dec. 11, at Immanuel Lutheran Church in Rolla.

Selections by the University Choir will be: Several hymns from "Twelve Christmas Hymns" by Michael Praetorius, "Come, Love We God" by Daniel Pinkham (accompanied by harpsichord), "Laetatus Sum" (Be Joyful) by Claudio Monteverdi, "Seven Joys of Christmas" by Kirke Mechem and "Hodie Christus Natus Est" by J. P. Sweelinck.

"A Day for Dancing" by Lloyd Prautsch will be the Chamber Choir program.

Commenting on the program, director Joel Kramme, in-

structor in music, says, "Laetatus Sum" is a beautiful work which contrasts the voice of Nicole Talbott and Judy Flebbe against the accompanying instruments—two flutes and organ. It also points up contrasts between male and female voices.

"The Chamber Choir is performing a very unusual concert work scored for small choir accompanied by flute, oboe, bassoon and miscellaneous percussion instruments. The entire work is danced by a small troupe of dancers attired in Medieval costume. I think the audience will really enjoy this."

There is no charge for this program and the public is welcome to attend.

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Suggestions For Graduate Education

PRINCETON, N.J. — A —More experts who may not national panel of leading educators has issued a report possess the usual academic credentials be added to calling for major changes in graduate school faculties. American graduate education. "Successful achievers in

In the report, entitled business and government Scholarship for Society, the possess gifts and experience Panel on Alternate Approaches that could be of immense in- to Graduate Education fluence in redirecting academic questions the emphasis on energies toward the servicing of research as the single criterion social needs."

—More intensified efforts be for evaluating all graduate schools and their faculties, and made to recruit able minority- group representatives and urges that all doctoral students spend time working outside women to the faculties. university walls in area related "Statistics can be cited con- firming that the politics of to their major fields. graduate education reflect the influence of a ... discriminatory society."

More than 18 months of study by the panel preceded the report. The Panel was supported by two influential organizations largely representative of graduate school opinion — the Graduate Record Examinations Board, whose policies affect the entrance requirements of most graduate institutions, and the Council of Graduate Schools in the United States, whose 307 members include universities awarding 98 per cent of the doctoral degrees in this country.

The 15-member panel was appointed by the two groups in the fall of 1971, with J. Boyd Page, president of the Council, serving as chairman. Educational Testing Service (ETS) in Princeton, New Jersey, provided administrative support under the direction of I. Bruce Hamilton.

In a preface to the report, Dr. Page notes that "new elements do need to be added to graduate schools, that significant modifications need to be made, and that horizons of concern need to be expanded if graduate schools are to meet fully the emerging needs of society."

The panel report recommends that:

—Graduate school faculty be encouraged to take a wider view of their professional roles, and the decisions "for tenure, promotion, and salary increments no longer (should be) based on the single criterion of research and publication."

Continued on Page 7

Medical Question Delved

COLUMBIA mo.—An unconventional bird housed on the University of Missouri-Columbia campus is providing a research source that may answer questions related to a number of human ailments.

A large colony of Japanese quail (maintained by the production of about 200 a week) is helping to advance studies of calcium in bone structure, Vitamin D metabolism, and parathyroid hormone action. The latter relates to studies conducted with kidney dialysis patients in the Clinical Research Center at the UMC Medical Center.

Dr. Alexander Kenny, faculty member in the biochemistry department of the School of Medicine and an investigator at Dalton Research Center, established the quail colony to use in his research because they are small, reproduce rapidly, and are easily sorted out according to sex. (The female is identified by speckled breast feathers.)

"The egg-laying bird exaggerates stresses on calcium metabolism and enables us to uncover findings which might be missed if we were studying the rat or the human, for example," Dr. Kenny says.

"The bird loses a fantastic amount of calcium, laying an egg a day 80 per cent of the time over a period of six to eight months. It loses 10 per cent of its calcium a day. How does the

bird cope?" questioned Dr. Kenny. He found it copes because it rebuilds calcium in a hurry.

Within the past two years investigators have discovered that Vitamin D (once thought of as a "regular" vitamin) is actually one of the body hormones. As taken into the diet it is inactive. Manufactured by the body through sunlight on the skin, it goes to the liver, is converted there to another compound (25-hydroxy Vitamin D-3) by chemical reaction. From there it moves to the kidney which, it has been learned recently, controls the whole of Vitamin D metabolism.

A basic interest of the UMC research team is in finding out what controls the on-and-off switching mechanism in the kidney that increases calcium absorption from the diet and the tapping of bone stores when the body needs calcium.

Dr. Kenny reveals that he and colleagues at the Dalton Research Center have made a recent discovery through their investigations of Japanese quail that furthers understanding about when the bird switches Vitamin D on and off. The paper has been submitted to a leading scientific publication.

A person needs Vitamin D to prevent rickets (bending or distortion of bones) or osteomalacia (a bone disease). But too much Vitamin D can result in a build-up of blood

calcium that causes muscle weakness, extreme thirst, and a slowing down of the heart. Or it can cause other problems such as kidney stones.

The average adult human gets enough sunshine so he has no Vitamin D problems internally; troubles arise when people take too much orally, Dr. Kenny says.

In a separate study going on at the Medical Center, physicians in the Clinical Research Center have joined with Dr. Kenny's group in investigating over-secretion of the parathyroid hormone which can result in bone disease. Results of their study may be used as a diagnostic aid in determining the severity of this complication of kidney disease.

The enzyme present in the kidney that is responsible for conversion of Vitamin D to its active form is present in the vertebrate kingdom as well as the bird world, Dr. Kenny notes. Thus it is assumed that the mechanism that controls Vitamin D and calcium metabolism is probably similar to that in man. Kenny admits, however, that it may be exaggerated in the quail because the bird is so prolific in laying eggs.

A number of young scientists have been attracted by the work going on in Dr. Kenny's laboratory. Some have come from as far away as England and Australia to work with him.

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Kay Jenks - Time and Effort for UMR Graduate Education

Continued From Page 6

ROLLA, Mo., — "When the Regional Diagnostic Clinic was opened in Rolla, I considered changing jobs," says Catherine Jenks, instructor in psychology at the University of Missouri-Rolla. "But it was so exciting to be a part of a growing department here at UMR, and so interesting to be a part of its development, that I just couldn't leave."

Kay as she is known to most faculty and friends, was trained initially as a therapist—although she has had considerable experience in the field of teaching and numerous courses in psychology. She is registered as both a physical and an occupational therapist.

When she first started teaching at UMR six years ago the social sciences department was just beginning to develop. There were only two full-time psychology faculty members and only six or eight students majoring in the field. The first student to receive a degree with a psychology major was graduated in 1968.

Now part of the social sciences department in the College of Arts and Sciences, the psychology discipline has seven full-time faculty (Kay is one of them). About 95 students are majoring in the field and approximately 15 students a year are receiving degrees who have majored in psychology.

"It's been very interesting to watch the increase in the number of women students," Kay says. "When I first started teaching at UMR I didn't have a single girl in my classes. Now, I don't think I have a single class that doesn't include several women."

One of the aspects of teaching at UMR that Kay finds fascinating is the rather different approach to psychology taken by the students majoring in science and engineering. "They are so problem-solving oriented," she says. "I have one psychology class which is loaded with electrical engineering, computer science and physics majors. The class is primarily a study of the brain

and nervous system and, probably because of their interest in circuitry, those science and engineering students eat it up."

Another of Kay's classes, educational psychology, has started a program that UMR students seem very enthusiastic about. Last year, Kay told the students that if they would prefer to do so, instead of writing a term paper, they could volunteer to spend a certain number of hours working with individual students at various Rolla schools who had specific learning problems.

As soon as pupils with particular problems were identified by their teachers or administrators, UMR student volunteers would be assigned to work with them on a one to one basis. Some UMR students were working at Rolla Junior High, some were working at the Diagnostic Clinic, the Dyslexia School and at Truman Grade School.

About 35 to 40 UMR students participated in the program both semesters. "It was amazing how fascinated they became in trying to help their individual pupil," Kay declares. "Many of them spent extra hours at the library boning up on the problem exhibited by their particular charge and methods of helping the student."

"In fact, this year, even though they wouldn't be doing it for class credit, a number of students who were involved last year are volunteering to do the same thing again. We're even getting some volunteers from other disciplines. I expect the program will be quite a bit bigger this year. The schools seem to be enthusiastic about the volunteer program, too."

Kay's job as a full-time faculty member is not limited to working with students in the classroom. She has been adviser for the Women's Residence Hall Association (WRHA) for a number of years. When she first became adviser, UMR had a women's dorm in old private residence across the

street from the campus. It housed 14 women students. When the enrollment of women students began to increase, the University bought an apartment close to campus and converted it to the point where it could house about 35 girls. Last year the University reconverted the apartment house to married student apartments and turned over one of the men's dorms (it houses 100) to the women.

"I don't know what we will do next year if the number of girls keeps increasing," Kay says. "We will have to find more housing for them. One thing about the increase in women students," she continues, "is that women on the UMR campus are rapidly becoming first class citizens. I suppose its partly a result of the times, too, but a lot of the girls are fine quality students and they deserve to be respected as individuals."

Kay has also spent a lot of time as adviser to the student's Psychology Club. As a member of the UMR public occasions committee, she also is involved with planning graduation ceremonies and such campus

Continued On Page 8

The 20,000-word report cites a "cultural lag" resulting from an enormous increase in the past 50 years in the proportion of persons obtaining graduate degrees. While this increase, according to the report, has dramatically altered "the relation between the university and society as a whole," there has been little change in the self-conceptions of graduate departments in the same 50-year period.

Following its specific recommendations, and suggestions for implementation, the report goes on to make projections about the future of graduate schools. Student populations, the panel forecasts, will be fairly evenly divided between the sexes; at least 20 per cent of its numbers will be drawn from minority groups.

Because of recurrent education, the ages of students will correspond more closely with those of the general population. It will be standard practice for students and teachers alike to examine the social implications of projected research. Standards for measuring faculty performance will be applied to a great variety of professional activities. For instance, com-

munity activity could be part of the assessment process.

The panel also predicts that the graduate professor will become more of a "mentor and preprofessional counselor" through expanded use of new educational technology. In addition, significant lines of communication will connect graduate programs and schools of different functions with each other and with other institutions, such as two-year colleges and state education departments.

Single copies of Scholarship for Society are \$2.00; 10 or more, \$1.50 each; 100 or more, \$1.00 each. Orders should be addressed to: Panel Report, GRE Board, Educational Testing Service, Princeton, New Jersey 08540. (Prepayment is requested with orders for fewer than 10 copies.)

The early Dutch settlers brought their old world customs to America. At Christmas, they chose a burgher to dress as old St. Nicholas and distribute toys and sweets to the children. The children shortened the name Nicholas to Ni'Klaus or Claus. Spanish influence in the Netherlands changed Saint to Santa—hence—Santa Claus.

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At Cortez, Nevada AA Unit Used to Segregate Ores

CORTEZ, Nev.—Operators of the Golden Acres open pit gold mine here are using an atomic absorption spectrophotometer to improve the efficiency and cut the cost of ore-processing.

The spectrophotometer—a Varian Model 1000—is carried in a mobile laboratory stationed right in the mine pit, near the ore-digging shovels. It is used for continual, rapid analysis of newly mined ore, to determine its gold content. The test results are used to segregate ores of different grades:

High-grade ore (containing more than 0.07 troy ounces of gold per ton of ore) is set aside for milling. This ore will be crushed mechanically and then treated with a sodium cyanide solution to leach out the contained gold. It is a costly process, but it recovers more than 85 per cent of the gold in the ore.

Low-grade ore (containing less than 0.07 troy ounces per ton) is reserved for heap-leaching. This ore, too, will be leached with cyanide, but without the mechanical preparation involved in milling. Heap-leaching is less expensive than milling, but it recovers substantially less gold.

The Gold Acres Mine is one of several Nevada gold properties that have been reactivated in recent years, as the price of gold has risen. The mine had been worked until about 12 years ago; it was closed when it no longer yielded gold that could be sold profitably at the federally fixed price of \$35-troy ounce. In recent years, the price of gold has been freed from federal control, and currently stands at about \$100-troy ounce.

About nine months ago, the developers of the nearby Cortez Gold Mine reactivated the Gold Acres Mine. Joseph D. Koch, chief assayer for the Cortez Gold Mine says that the use of

the mobile laboratory for rapid segregation of mined ore into high-grade, low-grade and waste categories has reduced significantly the cost of the Gold Acres operation.

Although the location of different ore grades is determined from blast-hole samples before each section of the mine is worked, the data isn't necessarily valid after the ore has been blasted. The blasting shifts large masses of ore, and the extent and direction of the shifting aren't always predictable.

By using the Varian spectrophotometer, mine operators can determine the quality of a mass of ore even as it is being mined. Analytical results are used immediately to direct the digging and segregation of the ore.

The mobile analytical laboratory used now at the Gold Acres Mine (and used previously at the Cortez) includes all of the equipment needed to pulverize and leach an ore sample, filter the leached product, and analyze it in the Varian spectrophotometer. The entire process takes less than 15 minutes, for a batch of four samples. The lab operates for two shifts (18 hours) and handles about 50 samples each day.

Although the fundamental principles of atomic absorption spectrophotometry have been known for more than half a century, its full potential as a convenient, low-cost analytical tool was only recently recognized.

AA spectrophotometry depends on the principle that every element emits or absorbs energy at its own unique spectral wavelength. In the spectrophotometer, a sample known (or believed) to contain a particular element is vaporized.

The vapor is then irradiated with light having exactly the wavelength that is characteristic of the element in question. If the element is present in the sample, some of the light will be absorbed as it passes through the vapor. And since the amount of light absorbed will be proportional to the amount of element in the sample, the observed absorbance indicates the concentration of the element. This is one of the fastest, easiest-to-operate and most precise ways of measuring concentration available to the analytical chemist.

"After we leach the ore with cyanide," Koch explains, "the gold-bearing leaching solution is put through a press, where zinc is used to precipitate the gold. As the barren solution emerges from this process, we have to make sure that we have really taken out all of the gold that we possibly can."

"The spectrophotometer routinely measures gold concentrations as low as 0.001 troy ounce per ton. Two operators can run about 150 ore samples and barren-liquor samples through it each day."

The Varian Model 1000 atomic-absorption spectrophotometer is a low-cost instrument that can handle trace-element and major-constituent analyses for more than 65 elements, in any concentration units. Its features include a flame-emission chopper, a four-lamp turret and automatic baseline correction.

Other Varian AA spectrophotometers include the highly advanced AA-6, introduced earlier this year. Highly automated, the AA-6, offers an unprecedented combination of reliability, accuracy and ease of operation.

Kay Jenks

Continued From Page 7

events as Parent's Day, National Merit Day, etc.

She is a member of the women's sub-committee of the student affairs committee of the UMR Academic Council. She is also a member of the Chancellor's Student Life Committee which considers ways and means to make improvements in student's living conditions and non-academic participation in campus activities.

Kay is a native of Rolla and her family has lived here for many years. She was graduated from Rolla High and, to please her father, she started her college career at Stephens College in Columbia studying music.

"About that time, World War II began," Kay says, "and I felt there were more important things that I could be doing. So, I transferred to Washington University and got my B.S. degree in education. Then I went on to Washington University's Medical School and got an M.S. degree in physiology."

Kay got a job in the neuro-surgical department at an Army general hospital in Louisville, Ky. It was there she met Bill Jenks II who was hospitalized with a leg wound. They were married in 1945.

While in Louisville, Kay also taught some classes at the University of Louisville and some rehabilitation courses for the Army.

After the war, Kay and Bill returned to Rolla and Bill went into the insurance business. They had a son, Bill III, who has since joined his father in the family business.

While Bill III was young, Kay didn't work but she managed to keep pretty busy. She started Rolla's Cerebral Palsy School in 1947. The school is still thriving. For many years she served as an organist at Christ Church Episcopal and she also was a member of the board of the Rolla Public Library and the board of Rolla's Community Concert program.

Three years before she started her teaching job at UMR she received a fellowship to the University of Missouri-Columbia. She planned to work toward her doctorate in speech pathology and audiology. As part of her fellowship she was also teaching at UMC. However, commuting between Rolla and Columbia proved to be pretty rough. After a couple of serious accidents on old Highway 63, she decided a Ph.D. wasn't really worth the hazards.

Kay Jenks is a dedicated woman. Dedicated to her students, dedicated to education and dedicated to her community. Somehow, practically everything she does seems to add a new dimension to her students, the University and the Rolla community.

Gifts at Saturnalia

"A flask, enclosed in light wickerwork, containing boiled water iced, shall be your present for this Saturnalia (Roman celebration to which our Christmas feasting and exchange of presents are probably traced). If you complain that I have sent you a summer gift in December, you may send me a thin smooth toga."

So did Martial, a Roman writer, describe a gift in the first century.

Bethlehem to Bedlam

In the 13th century, a hospital was built in London to take care of the poor and needy of that city. It was founded with lofty ideals and named St. Mary's of Bethlehem after the religious order bearing that name.

With the passing centuries, the character of the hospital changed. It became an asylum for the insane and its name was shortened to Bethlem.

By Shakespeare's time, it had become a symbol of horror and notorious for inhuman treatment.

Time and usage had reduced its name to Bedham—a lunatic asylum or characteristic of a madhouse.

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Features

Our Man Hoppe

It was on December 7, 1974, (cq) that Congress, at the President's request, declared war on Germany and Japan. This bold strike saved the crumbling Nation.

For more than a year, confused Americans had been plagued by wartime gas rationing, wartime blackouts and inexplicable wartime shortages of everything from antifreeze to comic books.

"All that we've been lacking," explained the President in a nationwide address, "is a war. And now that we've got one. I call on every patriotic American to make sacrifices for the war effort, such as putting up with gas rationing, blackouts and shortages of everything from antifreeze to comic books."

These were sacrifices that every patriotic American found ridiculously easy to make. But they felt much better about them. Grousing became a thing of the past.

Should a customer be so unwary as to complain about the mysterious lack of yellow tennis balls, the answer was unvarying.

"Don't you know," the patriotic proprietor would growl at him, "that there's a war on, mac?"

Moreover, the sickly malaise of doubt and distrust in the Nation's leaders was swept away overnight. As always in wartime, Americans united

behind their Government.

Nor was there any difficulty drumming up wartime fervor against the enemy. "After all," the President said, "who has made off with our lumber, our fish and the fruits of our labor? Who, in a day that shall live in infamy, made a sneak attack on our Almighty Dollar? And who has established vast beachheads of real estate holdings on our sacred American soil?"

There were sad moments, of course, particularly when ads announced that "Lucky Strike filters have gone to war!" Old timers shook their heads. "I hope they do better than Lucky Strike green," they said. "It never came back from the last one."

The fighting, such as it was, centered once more in North Africa, the goal being the strategic Middle East oil reserves. Who will ever forget the Second Battle of El Alamein? Again, the two armadas of tanks faced each other in the desert. But this time, on the word, "Go!", both raced east for Saudi Arabia. "Who cares who gets the oil," as the President said, "as long as the Arabs don't."

Finally, it was over. The old battleship Missouri once more steamed into Tokyo Bay for the surrender ceremonies. General Buck Ace, who had been practicing in front of a mirror, drew his sword with blinding

speed and handed it to the surprised Japanese admiral.

"You licked up fair and square," said General Ace quickly, "and we surrender unconditionally."

So America was forced to withdraw her troops from abroad and dismantle her military machine at a savings of billions. And Americans, happy and united, grew rich turning out small cars and television sets for her conquerors.

Germany and Japan became the mightiest Nations, plagued inevitably by power-mad leaders, inexplicable shortages, and, in monetary circles, low marks and diminishing yens.

Lasting peace finally came with World War IV when all countries surrendered unconditionally in the first 32 seconds.

NOTICE

For:
Independents
Party
Weekend

Independents Party Weekend T-shirt and slogan contest. \$10 prize for the best design and \$5 for the slogan. Turn your entries into your organizations weekend committee member or the GDI office by 5 p.m. Wednesday December 12.

GRADUATING SENIORS

All students renting Master's Hoods or Doctor's Gowns are requested to please cooperate and return them immediately after the Commencement exercises Sunday afternoon, December 16, 1973. December 12, 13 and 14.

Each student receiving his Bachelor's or Master's degree may pick up his cap and gown in the large classroom, ground floor of the Multi-Purpose Building, from 8 a.m. to 12 noon and 1 p.m. to 5 p.m. C.S.T. on

The Missouri Miner

The MISSOURI MINER is the official publication of the students of the University of Rolla. It is published at Rolla, Missouri, every week during the school year. Entered as second class matter February 8, 1945, at the Post Office at Rolla, Mo., under the Act of March 3, 1879. The subscriptions are \$1.50 per semester. This MISSOURI MINER features activities of the students and faculty of UMR.

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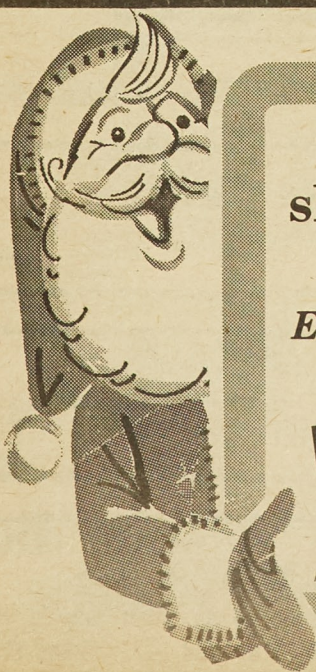
This allows the graduating students to have a new car before he graduates when he really needs it.

"This is a special discount program for students. We will be glad to quote you a price on any Ford or Mercury product."

When Is Christmas?

The nativity scene is the true symbol of Christmas, but although the holy day is celebrated on December 25, no one knows the exact day or year of Christ's birth. Some authorities claimed it was January 6; others, March 25.

Historically, there is good reason to question the date, for His birthday was not celebrated until 400 years after He died.



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Editorial Opinion

Dennis Rackers

Comp Sci. 73 - The Worst Course

There are many courses at UMR that are run very badly but Computer Science 73 is undoubtedly one of the worst. These are just a few of its inequities: far too much work for just two hours credit, unfair grading system, assigning programs before the student has been shown how to do them, not allowing for computer system break-downs, impossible programs, worthless video-tape lectures, and different work required from different instructors. Because of these inequities, plus many more, Computer Science 73, for its performance this year, and throughout the past, should be given the Worst Course Of The Year Award. Each of the reasons why Csc 73 won this prestigious award shall now be explored in depth.

You must keep in mind however that this article applies only to Csc 73. The rest of the Computer Science Department is reasonably fair.

First there is far too much work involved for the amount of credit given. For any course, the hours of work involved per hour of credit given should tally with most other courses. Most students, however find that they spend as much time working on Csc 73 as they spend on most 4 to 5 hour courses. We know that the Computer Science depart-

ment thinks that Csc 73 should cover all of the material possible, but does the Computer Science Dept. have the right to elevate this course far above all others.

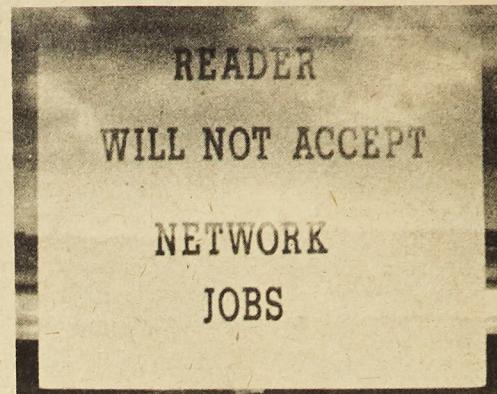
Second Csc 73 has one of the most unfair grading systems in existence. It is almost impossible to get an A in Csc 73. Here are several cases in point: One student 4.00 GPA before he took Csc 73; he finished second in the class and was given a B; another student with, over a 3.00 average also suffered this same fate, another student had taken almost all the material before and almost knew enough to quiz out; he worked his hardest on every program and made a B. These exceptional students can get a B; most average students are hardpressed even to survive. Most programs are so difficult that it is impossible for the average student to do them. The student is forced to resort to copying, so obviously he learns almost nothing.

There are many ways that the department helps the student work out their impossible programs. First, every class period the student is given an extensive video-tape lecture. Of course the Video-tape instructor talks so fast that you must be able to take notes at ten words a second, but it at least helps. Of course it would help a lot more

if the video-tape lecture kept pace with the programs. The student is also given helpful hints from the classroom instructors. Unfortunately this help is usually given about two days before the program is due, when it is already too late to help. Also, some instructors feel, that the programs are far too easy (after all, they know how to do them) so these instructors frequently add in special conditions and requirements designed to make the program harder to do. Thus, if a student is unlucky, and happens to get the wrong instructor, he has an additional handicap.

Despite all the handicaps you have heard so far, there are some exceptional students that actually can figure out how to write the programs themselves, without help. For these students, and all others, additional hazards have been arranged. A student will finally debug his program and be all ready for the final run and will be greeted with "Columbia Is Down". Most departments will change the due date when the delay is the University's fault. Not so with Csc 73; their regulations were handed to Moses on a mountain and must be followed absolutely.

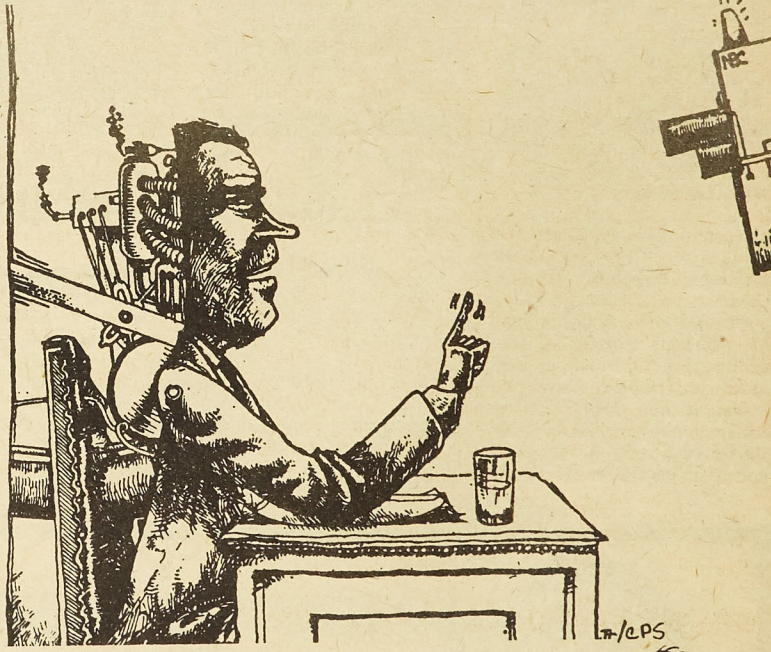
Because of these many qualifications, Computer



This sign is a familiar sight to students of CSc 73. Program deadlines remained unchanged even in the face of such adversity.

Science 73, could keep their leading position for many years. There is only one possibility that this course could fail to win the award. There is a slight chance, that some commie-pinko-freak in the department could actually institute reform. The course could be split into two different sections. The first section, for Computer Science majors, would give more credit and would be about as hard as the present course. The second section would give the present 2 hours credit and would be for non-computer science majors. The programs would deal with

applications that the average student would use. Also the programs would be easy enough so that it is possible for the average student to write his own programs. In both courses A's would be given to a whole fifth of the students. The due date on each program would be extended with allowances for major breakdowns. We encourage the department to turn down all of these reforms. Any one of them could jeopardize Csc 73's leading position. If Csc 73 is going to get the "Worst Of The Year Award" again then by golly their going to have to earn it.



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The Energy Crisis

Miner Opinion Poll

Last Thursday in the University Center the Missouri Miner again held an opinion poll. The topic was the Energy Crisis. With the questions we asked and additional comments added by the approximately 350 participants, we were able to get some good student opinions.

Our first question was:

Do you believe the Energy Crisis is:

- a) over emphasized-20 per cent
- b) being dealt with sufficiently-17 per cent
- c) worse than expected-55 per cent
- d) no opinion-8 per cent

It is certain that the Energy Crisis is here. Many did see it coming upon us and tried to emphasize that a shortage was inevitable if nothing was done. Power producers, oil companies and many experts did warn us. Now the shortage is here. There isn't enough fuel to run our cars, heat our homes and produce electricity at the current rate. The future also looks, bad since we not only can't produce energy fast enough but we are running out of resources.

Who's fault is this, was also one of our questions.

- a) Congress - 7 percent
- b) Administration - 18 per cent
- c) Oil Companies - 13 per cent
- d) People - 12 per cent
- e) All of the above-50 per cent

Of course we're all to blame some-what. But who could have really done something about it. The big problem was our inability to react to warnings given did hurt. Congress and the Administration could have taken action sooner or promoted more research and action on the situation. Some accuse the people of over consumption. Environmentalists also contribute to the situation by strong pollution control programs. The devices on cars cutting mileage and also emission standards forcing some coal operated power plants to switch to oil as a cleaner source. Control devices in industry also eat up valuable energy. Some cite oil companies as trying to drive up prices. The individual citizen is also

responsible because of over consumption.

Some of our next questions had to do with are question, will we now be able to conserve our energy.

1) Have you or your parents made a serious attempt to turn down the thermostats in your home?

Yes - 80 per cent

No - 20 per cent

We wonder if people are complying to this especially at this degree.

2) Are you for or against a 50 m.p.h speed limit?

For - 60 per cent

Against - 40 per cent

This seems to be a very touchy topic. There are a lot of people against it. You can see for yourself the speed on the highways hasn't slowed down much by voluntary compliance. The trucking industry is violently against it. Sunday driving has been reduced significantly. It's bad the crisis had to hit at this time. The reduced speed limit, if it becomes law, will be felt especially by a lot of college students all over the country. We're just in the right time of our life to travel around the country during vacations and even on weekends. The reduced speed limit will not only hurt traveling time but will make driving even more monotonous. Gas prices alone will cut down on our ability to travel. What will happen to party weekends if the controls on weekend driving become tougher. It will be tough to get a date to drive down here. Many who had thoughts of attending Mardi-Gras this year will think twice.

One measure was shortening of the working hour. This could be very complicated. Schools may even consider changing the vacation period making it longer in the winter and shorter in the summer.

Another measure to conserve energy would be to reduce some of the pollution controls.

Our final poll question was:

What source do you think make our country energy self-sufficient? (What source will make up the major part of the energy deficit in the near future?)

- a) Oil - 10 per cent
- b) Coal - 30 per cent
- c) Nuclear - 51 per cent
- d) no opinion - 9 per cent

This question should have really been put in to parts. The energy problem for the future lies first in meeting the deficit in the next couple years and second making the country eventually energy self-sufficient.

In the next couple years our oil reserves will not be able to meet the increases in demand. Nuclear plants which take at least 10 years to construct are now having problems with safety standards. Nuclear experts themselves do not expect to relieve the situation very much even within the next couple of decades. One hope for the immediate future is coal. Coal is available right now as fast as it can be mined. The only thing that slows production down now is the emission standards in some states which make it unprofitable to buy coal and spend enormous amounts reducing its pollution in some states which make it unprofitable to buy coal and spend enormous amounts reducing its pollution. Strip mining laws are also slowing things down. What many people don't realize is that coal companies now have tremendous land reclamation programs. Coal is now also being used to produce natural gas by a gasification process.

As for the long range future we could have many possibilities for energy. Nuclear power should be completely safe by then. We may even have some solar energy. Oil shale also has it possibilities to produce oil.

The Energy Crisis is real and will be with us for a while. How we will meet the problems we have remains to be seen.

Save Energy



Dr. J. Robert Schrieffer, one of Rolla's guest lecturers. He lectured on Surface Physics. He is noted for CBS Theory of television.

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NY DOLLS

Cottey College Party Weekend

The University of Missouri-Rolla was well represented at Cottey College's "Christmas Formal" this past weekend with seventy of the one-hundred and fifty men being Miners.

Cottey College is an all-girls, two-year college located in Nevada, Mo. Cottey has an enrollment of three-hundred and fifty-four girls.

Cottey College is unique in its

own way. There are girls representing forty-eight states there. The school prohibits students having automobiles on campus. The girls can be expelled for having alcoholic beverage on campus. The dorms close at 1:00 a.m. and the girls are allowed fifteen minutes total per year that they can come in late. After their fifteen minutes is up, they must

go to the judicial board to be punished. Their is only one major dance per year, the Christmas Formal, so you can imagine the excitement of the girls this past weekend to actually be allowed to see boys! Several Miners disagreed with the title Cottey College and would like to rename the institution "Cottey Prison."

Every fall Cottey sends out

The silent treatment The roar of the crowd at the bounce of the ball reminds us it's time once again for Uncle Billie's Traveling Dribblin Basketball Show, featuring in supporting roles the UMR cheerleaders. Yes, they're back, bigger and better than ever. Notice how they can bring a crowd out of their seats with rousing cheers. You didn't notice? Well, watch closer next time. There, did you see it then? No? Well, perhaps something is wrong. Let's examine the situation. First, let's watch the cheerleaders. Not bad, and their cheers are OK too. Bouncy with a rythmn — nothing wrong there, it's just like it was in high school. Perhaps it's the game. However, after close examination we can't see anything wrong with the way they're playing basketball. It's an interesting game, what with the close score, worthy opponents, and all. Also, the surroundings are nice. But the crowd is still not reacting. Must be a bad case of lethargy. Woops—that call brought them to their feet. There go the cheerleaders again. The crowd immediately goes into their watching act. They do that quite well. One fellow in the middle is yelling with them. No, that's at them. Not being too nice about it either. Now the crowd is starting to chant something; however, I don't think the cheerleaders are leading it. In fact, they seem embarrassed by it. Back to a little action on the court. Back to less action on the sidelines. A last look at the crowd reveals that they still have a myopic malady concerning the cheerleaders. Too bad. Maybe the cheerleaders would have more luck on the other side.

Easily ridden.....Sung to the tune of "Uneasy Rider" by Charlie Danials:

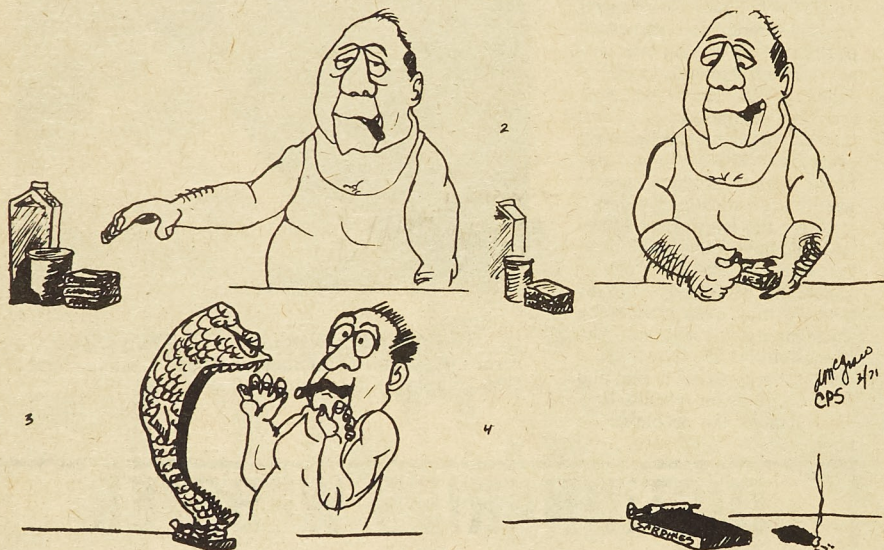
I was takin a trip out to UMR, toodling alog in my beat up car,
Playin with my slide rule and groovin on the radio;
I was moving along I-44, my back was tired and my legs was sore,
And then I saw the sign, said Rolla Mo.
I pulled up in front of his place called Tim's.
Thought that I'd just saunter in,
And have all the girls jut come flockin round me;
I looked around at where I was, thought that I'd made a mistake
because
The girls looked like they'd climbed down outa trees.

A guy named Reggie came on out, and said that I could sit just 'bout
Anywhere that I could find a chair;
I took me a table off to the side, and as the people came in I damn near died,
They were all so strange they could give anybody a scare.

There was one wierd dude with a funny green shirt,
Sleeves ws missin, but not the dirt,
And near as I could tell, he played in a band;
He was grunting and groanin and sounding real strange,
Talkin bout being horny at his young age,
And when the waitress came by, he could scarcely hold back his hand.

I hand't been there just too long, when I knew for sure that I'd done gone wrong.
By comin in the place, so I just decided to go;
I paid the bill and headed for the door,
The place was so strange I couldn't take no more,
I said as I headed for my car —
I'm never coming back to Rolla Mo.

Coal power Crises, panic on the streets, terror in the homes, and suspense on the wires. What's it all mean? It means energy is scarce and getting more so all the time. Desperate men are taking



NOTICE

The Saint Louis Symphony's annual Competition for Young Artists will be held Saturday, February 23 at the Powell Symphony Hall. The competition, sponsored by the Women's Association of the Saint Louis Symphony Society, is open to pianists, vocalists, stringed and wind instrument players, 25 years of age and younger, who are students of a recognized teacher, school or college.

Musicians who wish to participate in the Young Artists Competition may obtain an application with detailed requirements included, by writing to Saint Louis Symphony Competition, Powell Symphony Hall, 718 N. Grand Blvd., St. Louis, Mo. 63103, or telephone 533-2500. Applications should be completed and returned not later than February 1.

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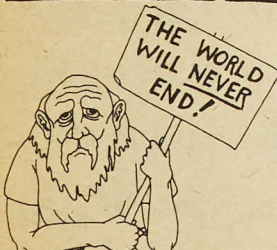
By Anderson & Elven

desperate measures to insure that their own greedy lives have enough energy to fulfill their greedy needs. Care must be taken at all levels to thwart these desperate criminals and their plans to indulge at the expense of tohers. UMR is implementing urgently needed steps immediately and will take even more drastic action should the results warrant it. UMR traffic safety policemen are standing a 24-hour watch over the coal pile that we so luckily posses. Each person entering the area is required to dress in a complete outfit made of white flannel to make detection of filched coal easier. In addition, evyeron leaving the area is required to travel through an oven of 800 degrees F where any stolen coal will instantly flame, again making detection easier. Every policeman has pledged himself to defend with his bullet the sanctity of the coal pile. To help those stalwarts of justice in their fight against crime, rabid dogs and 40 ft. pythons are allowed to roam freely about the grounds. The boundaries are protected by a new device called Intrusion Solutiion (from the same people who bring you Kitchen Magician). Anyone or anything breaking the electronic beam encircling the area will release a cloud of cyanide gas to effectively halt the unsuspecting intruder. All oil tanks have been filled with an antifreeze solution, while the actual oil was moved to an undisclosed location. Anyone attempting to use the "oil" will experience a rude shock once the temperature falls below -10 degrees F in their furnace. The governor has pledged that the area National Guard will be available upon request. Upon contacting these men both said they were willing to die in defense of the coal pile. Let this be a strong warning to all who dare consider the idea of cheating UMR out of it's rightful energy. We can all sleep sounder in our rooms knowing the heat is on UMR.

Still alive and well Just a brief word or 20 here to thank you all for once again supporting another UMR Theatre Guild production. With practically three full houses, the student support was once again evident, proving that drama can exist on this campus. Several productions are planned for the spring, including a musical and some more work on the hocky puck. We hope that you enjoyed Rosencrantz and Guildenstern are Dead as much as the theatre guild enjoyed bringing it to you.

Credits The coal pile better not disappear, or we're in troublethe cheerleaders appear, but that's all.....thanks for your appearance at the Nightclub our son will soon appear on the charts as a hit that's all.

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EDITORIAL OPINION UMR Infirmary's Ills

By Bill Behrens

One of the few areas of this university that has not undergone recent expansion is the UMR infirmary. The only noteworthy improvement has been a fire escape for the second story rooms, this being deemed necessary this year. The infirmary has been generally receiving a bad reputation for numerous errors and mishaps that have occurred over the past few years at the minimum.

The staff at the infirmary has always been kept to a minimum through the use of a few steadfast employees and two doctors who are on call for emergencies and are there at 8:30 a.m. and 4:30 p.m. Thus the burden of the work falls on the nurses. The equipment is also kept at a minimum, using Phelps County Hospital and the Rolla Clinic for x-rays and other expensive devices. This area itself is limited in that the small population of Rolla warrants only a few doctors and nurses. This means that there are not many or any specialist in towns the size of Rolla, one of the drawbacks of living in a small town. This has been a matter of growing concern for the nation, but what does one do about the immediate problem at hand?

The medical profession in small towns has always been noted in folklore as being a very dedicated group, partially from lack of high fees and partially true virtue. Rolla seems to be no exception, with most members of the profession doing there share. This does not solve the problem in the manner of larger cities where specialists and facilities abound. There have developed a number of solutions to this problem but none in Rolla would justify the title of an adept solution.

The UMR Athletic Department has developed the technique of shipping all valuable merchandise to

Columbia for any major diagnosis or treatment. This indeed solved the problem of this group and many other students make use of the medical profession in Kansas City and St. Louis for their needs. This leaves the hapless few who either don't know or care or can afford treatment elsewhere.

The infirmary has had many things blamed on it, along with the staff and the general smalltown setting. One large category is the use of x-rays for injuries. Because the infirmary lacks one, only emergency cases receive immediate attention, while seemingly small injuries are given 5 to 24 hours for an x-ray, often receiving an aspirin for a hairline fracture. The definition of emergency cases is sometimes a subject for debate as near emergency cases receive transportation back and forth between the infirmary and the hospital as the debate rages on. One patient with TB was given the opportunity to spread his wealth with roommates at the infirmary as well as numerous visitors, letting all enjoy a potentially infectious environment. Sometimes drug reactions to volatile medicines also happens, but this is usually rarer.

It's about time that over-all evaluation of the facilities in the area is undertaken, especially since the University of Missouri offers free medical attention to 4,000 potential victims.

forms to fraternities and male dorms of other colleges in this area inviting guys down for the Christmas formal. Anyone who wants to go signs up and then returns the form to the school. Then the Cottey College "Match-a-Date" goes to work. About one week prior to the dance, the organization receives a list of the guys who signed up and their respective date's name and height. When you arrive at the school, you are greeted at Robertson Hall by ten hard working girls firing ten questions a piece at one time.

The dance Saturday night featured Stone Wall from the Kansas City area. Stone Wall specialized in the "rock'n roll" department, with a little Deep Purple thrown in. They also played some songs that they had written them selves. Punch and cookies were served to cool off the heated dancers.

There were overnight accommodations available for guys to sleep on a tile floor of an auditorium in the basement of the campus chapel, for a 'small' fee, of course.

General reaction to the weekend from many Miners was one of disappointment, although some did think the weekend was a success. Booze was not allowed in the girls' rooms at the risk of being "expelled;" the dorms closed at 1:00 a.m.; if you wanted to do anything, you had to pay for it—the atmosphere of "guests" was not carried over very well; and booze on the campus, in general, was out of the question. Heaven forbid if any of the 'might weed' ever showed up in Nevada—the death penalty might still be in effect there. Beware!

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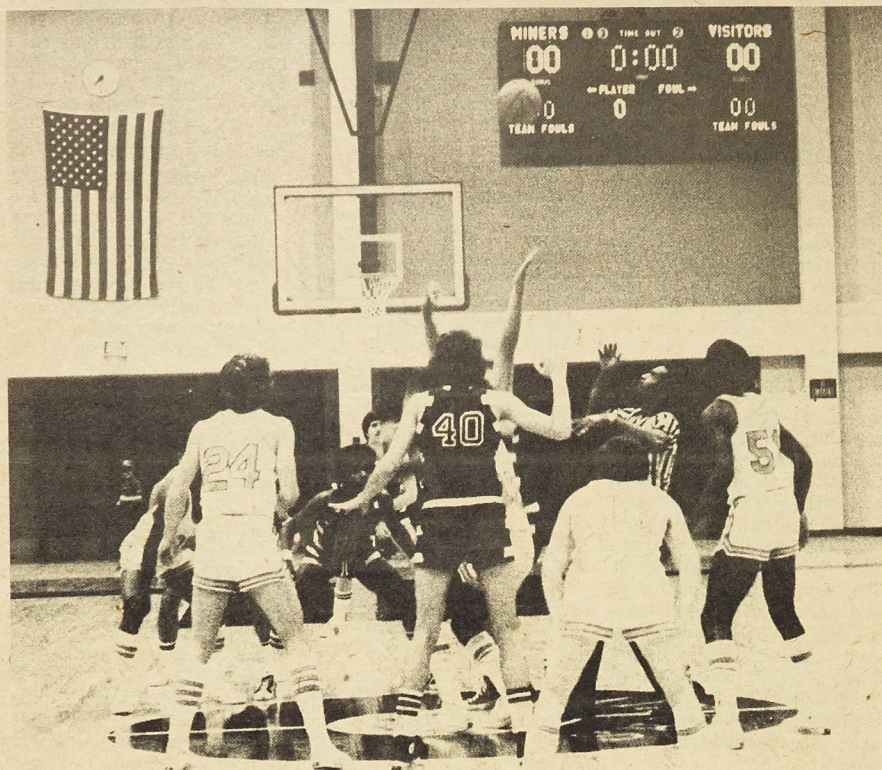


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Miners Lose To State Win Home Opener

The Miners kicked off their basketball season last Friday and Saturday nights against Memphis State College and Parkside of Konosho, Wisconsin.

In the first game, UMR was up against one of the toughest teams they've ever played. The final score was 103-79, Memphis State, and was really pretty respectable. Last year Memphis State played UCLA for the NCAA championship, and are ranked 20th, nationally, among major colleges. The score was 44-33 at halftime.

Ken Stalling was the high scorer for the Miners with 25 points. Royce Vessell, Bob Stanley, and Tommy Noel each finished with 11, Don McKenzie 8, Jim Fricke 6, Bob Kissick 5, and Larry Locke 2.

UMR bounced back well the next night against Parkside (no pushover either) in winning 61-

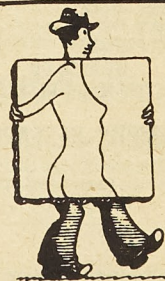
57. The score was 31-26 at halftime; the Miners were well in control throughout the game. It was a fast, action-filled game, the only lull coming at the start of the third quarter. UMR rebounded better than a lot of people thought they would

against a bigger team. Once again, Ken Stalling was high man with 26 points, followed by Vessell with 12, Noel 10, Stanley 7, and Locke 6.

The Kansas State game is not until Wednesday night, contrary to the Theta Tau calendar.

NOTICE

December graduates are reminded that it is necessary to inform the placement office of your future plans before leaving campus. Whether you have a job, are still looking, plan to go into grad school, or the military, or have no specific immediate plans, the placement office can provide assistance after you graduate. Be sure to stop in at the placement center, 9th and Rolla Streets, as soon as possible and fill out your "Green sheet".



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Three Miners On All-MIAA Picks

Last week the all-MIAA conference teams were selected with three UMR players on the first team. They were sophomore tight end Merle Dillow, and seniors Steve Suellentrop at defensive tackle and Jim White at defensive back. Sophomore wide receiver Stu Dunlop had a place on the second team.

Dillow was the leading receiver in the conference as he pulled in 44 aerials for 525 yards. Dunlop was the second leading receiver with 42 catches. Suellentrop, who received honorable mention last year, and White, who received second team honors, were the leaders of the defense the entire year.

The Miners also placed several on the honorable mention list: Don Angell was a pick at linebacker, Cliff Meisenheimer at guard, Greg Haug at quarterback, and Mike Joshua and Mike Keeler at running backs. Of these nine players mentioned, seven will be back next year.

Other members of the first offensive and defensive units

were: Wide receivers John McDaniels (LU), and Ed Slaughter (SEMO). Tackles Tom Mullen (SWMO), and Randy Euker (NWMO). Guards Kevin McGrath (SWMO) and John O'Guin (NWMO). The center was Rich Stewart of SEMO. The backs were quarterback Lance Brune (SEMO), and running backs Jim Albin (NWMO), John Gabrisch (SEWMO), and Tom McIntyre (SWMO).

The defense included ends Larry Terry (LU), and Harold Dilworth (SEMO). At tackle was Dave Waterkotte (NEMO). Nose guard was John Isom (SEMO). The linebackers were Robert Thomas (LU), Don Costello (NWMO), and Craig O'Sadnick (NEMO). The halfbacks were Bruce Johnson (LU), Ron Umpenhour (CMS), and Joe Wingate (NWMO).

Brune, who was the league's leading passer, and led the Cape Indians to the league title, was selected the league's most valuable player. Albin, who was the league's leading scorer and rusher, received the sportsmanship award.

Intramural Standings

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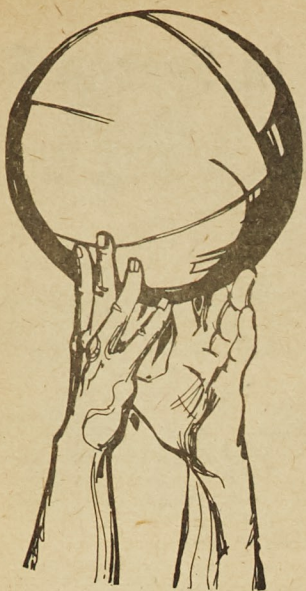
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Kappa Sigma Takes Second Major Title

Kappa Sig won the 1973 Intramural basketball champion by defeating MRHA, in the semi-final round and Tech Club for the championship.

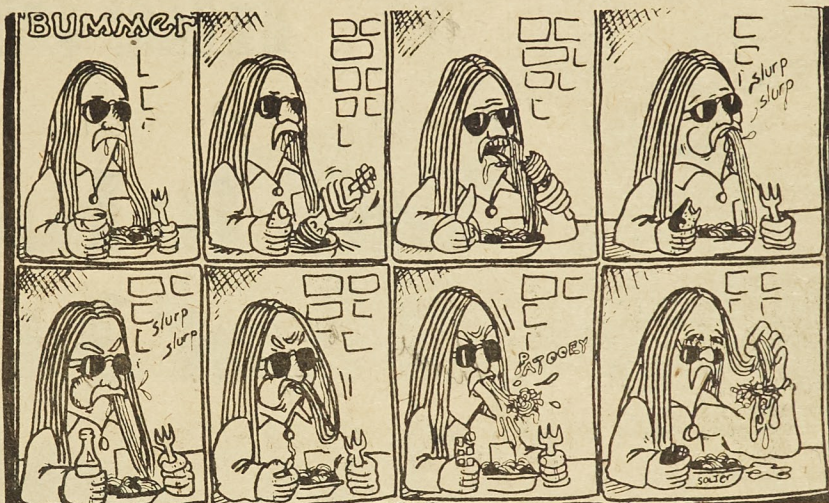
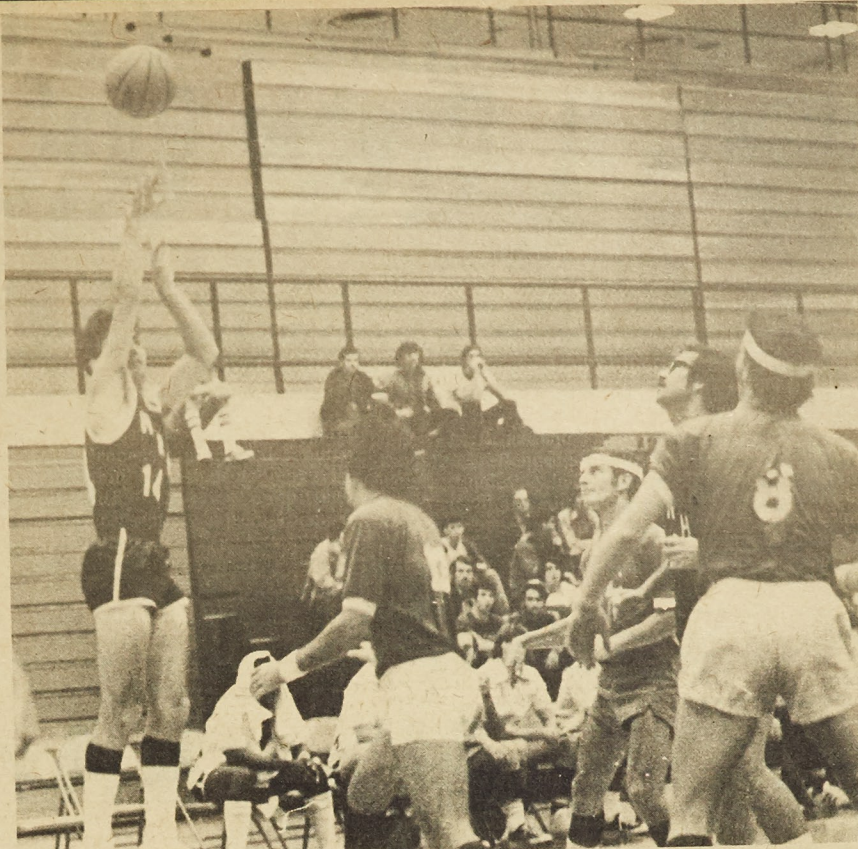
Tech Club, led by Bivens with 15 points, followed by Wohler who had 14 points, earned their way to the finals with a victory over Beta Sigma Psi, who was led by Shafer who had 14 points. Tech Club held on to most of their 21-15 halftime lead and won by a score of 41-36.

In the other semi-final game, Kappa Sigma, behind Walling and Sherrick, with 15 and 14 points respectively, increased a 20-14 halftime lead to a 47-30 final margin. The leading scorer for MRHA was Snowden who scored 8.

In the 3rd place game, MRHA cruised to a 45-40 win over Beta Sigma Psi despite a game high total of 12 points by Brown for Beta Sig. Hasedorn contributed 9 points for the winner, followed by Nichols and Sullivan who had 8 each.

Kappa Sigma came back from a 23-21 halftime deficit to nip Tech Club 41-37 in the championship game. Givens from Tech Club, was the games high scorer with 18 points. Walling led the winners with 17 points.

This was the twenty-sixth consecutive intramural victory for Kappa Sig this year. They have now won the football, basketball, and swimming competition.



Ganz Takes First In All-Mo. Tourney

This year's wrestling team has entered the season after training since Nov. 1, under the auspices of Coach Joe Keeton. Wrestling traditionally starts off slow and builds up to the NCAA finals, in March.

The team was entered in the all-Missouri tournament last Saturday. The tournament was attended by all the conference schools and most of the state junior colleges. Warrensburg and Perryville were the pacesetters as they swept most of the weight classes.

Steve Ganz, the captain of the team, was the only Miner to

place in the tournament as he swept through the double-elimination draw without a defeat. Steve was wrestling in the 190 pound class. Ken Burris had one win, but he failed to place.

As stated before, the season doesn't really get started until after Christmas. So if you are interested in college wrestling, see Coach Keeton before the end of this semester, because more wrestlers are needed to fill the weight classes.

The next meet is this Saturday, a triangular affair against Wash U. and Missouri Valley.

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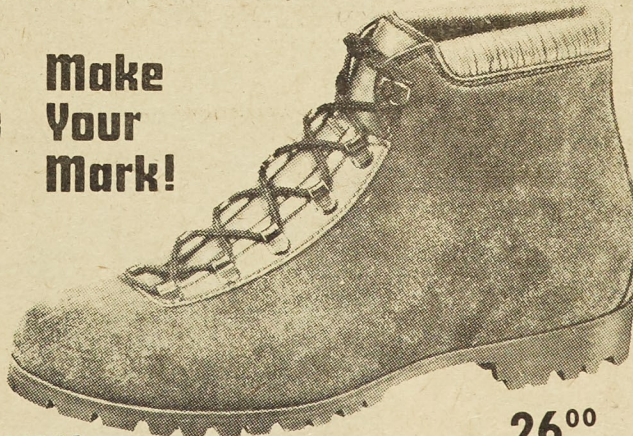
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Miner Swimmers Win In Soccer Club Wins Over Wash. U. Double Dual Drury In Season Finale

The 1973-74 swimming season got under way over the weekend. The Miners traveled to Washington University for a double dual meet against the Bears and the University of Missouri-St. Louis Rivermen. The swimmers really got their season off to a good start as they won both meets: UMR 90 UMSL 23 and UMR 78 WU 35.

Each team entered two swimmers in each race. Then to figure out the points for each team, the scorers looked at the results from two schools at a time. For example, in determining the points from an event for UMR and Washington University, the scorers would disregard how UMSL poaced and would just look at the finishes of the UMR and WU swimmers. These would then be listed in order of finish, with first place being worth five points, second place three points, and third place one point. This, then, is the system used in scoring a double dual meet. When this was done to WU and UMSL, the Bears came out on top, 60-40.

The Miners did very well considering it was their first meet of the year and that they had a full workout the day before. (Normally they would have just a light practice to keep loose). Both UMSL and WU had some very good swimmers in several events, but the Miners still won convincingly.

The Miners got off to a good start as they won the opening event, the 400 yard medley relay, from each of the opponents. The team of Curtis, Greiser, Mateer and Entwistle finished with a time of 4:01.5, a full three seconds ahead of UMSL. This performance took the top time against both of the other schools. Kenton Wright also swam this event (in 12:25.6), finishing second against UMSL and fourth against WU.

Bill Orr then promptly broke another WU pool record in the 200 yard free as he won the event with a time of 1:54.9. This, of course, took first against both schools. Bill Kroeger had a time of 2:00.1, second against UMSL and third against WU. Next came the 50 free, and Tim Blood, who has been winning in this event for the past two years, beat everyone with a time of 23.0. Don Steinmerd went 24.8, second against WU and fourth against UMSL. Mark Mateer had the Miners best time in the 200 individual medley, 2:19.2. This beat both of UMSL's men, but one of the Bears did manage to do better. Bill Greiser had an off day, finishing fourth against both schools.

The Miners went 1-2 in the diving events, sporting a team of Steves, Peppers and Suellentrop. In the round of required dives, Peppers scored 112.76 and Suellentrop was right behind with 95.5. In the optional dives, Peppers had 160.0 and Suellentrop was again a close second with 148.0.

The Miners had three swimmers entered in the 200 yard butterfly event, and they took first, second and fourth against both schools. In order of finish were: Mike Norberg in 2:08.4, Mark Mateer in 2:22.0

and Phil Henry in 2:43.9. Norberg's efforts deserve special mention as his time was a UMR varsity record.

Tim Blood and Bill Orr teamed up for a one-two finish both WU and UMSL in the 100 free. Tim went 50.9 and Bill did 51.4. Bill Kroeger and Rusty Curtis were the Miners in the 200 backstroke event. Their respective times were 2:18.1 and 2:21.7. They went one-two versus UMSL and two-three versus WU. The same result was true for Wright and McCarthy in the 500 free. Their times were 5:49.7 and 5:55.3.

Allen Fails was the Miners' top man in the 200 yard

breaststroke event. He was edged by WU man by five-tenths of a second and by a UMSL man by seventenths of a second. Bill Greiser finished right behind him with a time of 2:39.2. Phil Henry rounded out the Miners' contingent in this event with a time of 2:50.1.

In the final event of the day, the Miners really went all out and came up with a time that was just behind that of NCAA champion Indiana. The super team of Miners in the 400 yard freestyle relay were: Bill Orr, Jim Entwistle, Bill Kroeger and Tim Kroeger and Tim Blood. Their time was 3:26.1.

On Nov. 19 the soccer miners closed out their season with a 4-2 victory over Drury College of Springfield. Harry Chappel led the Miners with three goals the highest goal output by a single player this season. Larry ("3 shots for 25 cents") Mertens finally connected and ripped one into the nets for the insurance goal.

Play was ragged in the first half, but goalie Mark Miller kept the Miners in the game, and at the half, the UMR Green led 1-0 on Chappel's first goal. But Drury came right back and scored a quick goal right after the start of the final period. The

Miner retaliated with two more goals. A mixup occurred in the Miner defense which resulted in a goal for Drury. Fullback Tom Reachtein in attempting to clear the ball, had it carom off his foot and gently look over Miner goalie Miller. This gave Drury new life, but their press backfired and the Miners iced the game on Merten's goal.

The survey recently taken by the club recieved a good response and the club thanks you for your time in replying to our questionnaires.

$Q = cm(C_2 - T_1)$ $H = -kA \frac{dT}{dx}$ $\frac{d+}{dt} = \frac{f_2 - f_1}{2}$ $Q = U \Delta T$

What's Army ROTC like at UMR?

$V_1 - V_2 = ML - R(V_1 - V_2)$ $R = e^{-\gamma t}$

$H = \frac{1}{2} \pi r^2 \rho \omega$ $\frac{PV}{T} = \frac{PV}{T}$

Talk to Randy Latall

$P + P_2 h + \frac{1}{2} \rho v_1^2 = P_2 + P_2 h_2 + \frac{1}{2} \rho v_2^2$ $dU = d\phi - dW$

at 341-4741.

$P_1 P_2 h = P$ $P = \frac{1}{5} \rho g h$

$W = P \frac{dV}{dt}$ $V_2 = \sqrt{2 P_1 P_2}$ if $A_1 \gg A_2$

$V_2 = \sqrt{2gh}$ $V_1 \ll V_2$





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Thermal efficiency = $\frac{W}{Q_H}$ or $\frac{Q_H - Q_C}{Q_H}$